

# CONVERGE™ PRO | 840T

## Professional Conferencing System

The successor to the industry-leading XAP 400. Leveraging the rich functionality, audio performance, and flexibility offered by the flagship Convergetm Pro 880, the new 840T includes a built-in telephone interface and power amplifier for standalone conferencing capabilities. It also provides expansion capability with other Converge Pro mixers for complex installations.



LEADING AUDIO  
CONFERRING  
SOLUTION FOR  
PROFESSIONAL  
INSTALLATIONS

### APPLICATIONS

- Convention Centers and Hotels
- Auditoriums
- Stadiums
- Conference Rooms
- Houses of Worship
- Theaters

### ADVANTAGES

- Advanced Conferencing Feature Set**
  - + Next-generation Acoustical Echo Cancellation
    - > Improved duplex performance
    - > Push-to-talk microphone compatibility
  - + Next-generation Noise Cancellation
    - > Adaptive modeling to room ambient noise condition
  - + Increased resolution on Microphone Preamp stage
    - > 0-56 dB in 7 dB increments
  - + Pre-AEC routing for Sound Reinforcement Applications
    - > Maximum of 4 millisecond processing delay
  - + Management Improvements
    - > Integrated Ethernet and USB connections
    - > SNMP and HTML remote management agents
    - > Event scheduler
    - > Diagnostic console
  - + Simplified Configuration Software
    - > Drag & drop A/V and channel objects
    - > Selectable views—unit, matrix, channel
  - + Expanded Serial Command List
- Superior Audio Performance**
  - + Next-generation Distributed Echo Cancellation® on every mic input
  - + First-mic priority delivers clear audio to the far end
  - + 20 Hz-22 kHz bandwidth for full-range audio response
  - + ALC & AGC keep participants' audio balanced and consistent
- Configuration Flexibility**
  - + Scalable – link multiple Converge Pro units (880, 840T, 8i, TH20) for extensive microphone coverage and up to 16 phone lines
  - + Enhanced expansion bus, featuring 12 mix-minus audio buses for routing between units
  - + Eight mic gating groups (four internal & four global) allow separation of mics into individual mixer gating groups for greater configuration flexibility
  - + 32 presets can be executed on-the-fly without disturbing other ongoing preset operations
  - + 255 Macros for customized audio control/configuration with single command execution
- Conferencing Capability**
  - + Built-in telephone interface and power amplifier
  - + Link with multiple Converge Pro TH20s for up to 16-line capability
  - + Also link to Converge Pro 880 or 8i for additional inputs and outputs



> CONVERGE PRO 840T BACK PANEL



> SPECIFICATIONS



**Audio Performance**

Conditions: Unless otherwise specified, all measurements are performed with a 20 Hz to 22 kHz BW limit (no weighting)  
 Frequency Response: 20 Hz to 22 kHz  $\pm$  1 dB  
 Noise (EIN): -126 dBu, 20 kHz BW, max gain,  $R_s=150 \Omega$   
 THD+N: < 0.02%  
 Dynamic Range: 100 dB (non A-weighted)  
 Crosstalk < -91 dB re 20 dBu @ 20 kHz channel to channel

**Auto Mixer Parameters**

Number of Open Microphones (NOM)  
 PA Adaptive Mode  
 First Mic Priority Mode  
 Last Mic Mode  
 Maximum # of Mics Mode  
 Ambient Level  
 Gate Threshold Adjust  
 Off Attenuation Adjust  
 Hold Time  
 Decay Rate

**Matrix Mixing Parameters**

29x30 matrix  
 8 analog in/out  
 1 speaker out (amplified)  
 12 expansion bus in/out  
 4 assignable processing blocks in/out  
 4 assignable fader blocks in/out  
 1 telco in/out

**Assignable Processing Blocks**

Filters:  
 All pass  
 Low pass  
 High pass  
 Low shelving  
 High shelving  
 Parametric EQ  
 Notch  
 CD Horn

Crossovers:  
 Bessel  
 Butterworth  
 Linkwitz-Riley

Compressor  
 Delay; adjustable up to 250 ms

**Assignable Fader Blocks**

Gain/Mute

**Microphone Input Configuration**

Input Gain Adjust  
 Mic or Line Level  
 Phantom Power on/off  
 Echo Cancellation on/off  
 Noise Cancellation on/off  
 Filters:

All Pass  
 Low Pass  
 High Pass  
 Notch  
 PEQ



Mute on/off  
 Chairman Override on/off  
 AGC on/off  
 Automatic Level Control on/off  
 Auto Gate/Manual gate  
 Adaptive Ambient on/off  
 Pre AEC channel

**Mic/Line Inputs 1-4**

Push-on mini-terminal block, balanced, bridging  
 Impedance: < 5 K $\Omega$   
 Nominal Level: adjustable -56 dBu to 0 dBu (7 dB step coarse gain adjustment)  
 Maximum Level: -65 dBu to +20 dBu  
 Echo Cancellation: 130 ms tail time (works with 12 dB of room gain)  
 Noise Cancellation: 6-15 dB attenuation  
 Phantom Power: 24 V, selectable

**Line Inputs 5-8**

Push-on mini-terminal block, balanced, bridging  
 Impedance: > 5 K $\Omega$   
 Nominal Level: 0 dBu  
 Maximum Level: 20 dBu

**Outputs 1-8**

Push-on mini-terminal block, balanced  
 Impedance: < 50  $\Omega$   
 Nominal Level: 0 dBu  
 Maximum Level: 20 dBu

**Amplifier Output**

Binding post connection  
 10 Watts @ 4  $\Omega$  Impedance  
 THD + Noise: < 0.5%

**Telco Line**

RJ-11  
 POTS (plain old telephone service) or analog extension from a PBX  
 A-lead supervision provided

**Telco Set**

RJ-11  
 POTS (plain old telephone service) or analog extension from a PBX  
 A-lead supervision provided

**Telephone Audio Performance**

Conditions: Unless otherwise specified, all measurements are performed with Transmit Limiter and Receive ALC disabled  
 Frequency Response: 250 Hz to 3.3 kHz  $\pm$  1 dB  
 THD+N: < 0.3%, re-max level 250 Hz to 3.3 kHz  
 SNR: > 62 dB re max level

**Telephone Echo Cancellation**

Tail Time: 31 ms  
 Null: 55 dB nominal

**Telephone Noise Cancellation**

Noise Cancellation: 6-15 dB attenuation

**Expansion Bus In/Out**

Proprietary Network  
 RJ-45 (2), 1.9 Mbps  
 Category 5 twisted-pair cable, 200' maximum cable length between any two Converge Pro devices

**Ethernet**

Autoswitching with Quality of Connection (QoC)  
 10/100 Ethernet Network Port  
 10/100 Ethernet PC Port  
 RJ-45 Connectors

**RS-232**

Serial Command Protocol Only (Console software not supported on RS-232 port)  
 DB-9 female  
 9,600/19,200/38,400/57,600/115,200 baud rate;  
 8 bits, 1 stop, no parity  
 Hardware flow control on (default)/off

**USB**

Version 2.0 Compatible  
 Type: B-connector

**Control/Status**

DB-25 female A/B (2)  
 Inputs A/B: active low (pull to ground)  
 Outputs A/B: open collector, 40 VDC max, 40 mA each  
 +3.3 VDC pins (2) (300 mA over-current protected)

**Configuration & Administration Software**

Convergetm Console

**Power Input Range**

Auto-adjusting  
 100-240 VAC; 50/60 Hz

**Power Consumption**

30W Typical

**Dimensions (L x D x H)**

17.25" x 10.25" x 1.75"  
 43.8 x 26 x 4.5 cm

**Weight**

7.5 lbs/3.3375 kg unit weight  
 12 lbs/5.4kg shipping weight

**Operating Temperature**

14° F/-10° C to 122° F/50° C ambient room temperature

**Approvals & Compliance**

AES48-2005: AES standard on interconnections — Grounding and EMC practices — Shields of connectors in audio equipment containing active circuitry (self certified)  
 U.S.A. & Canada  
 CSA safety listed  
 EU Countries  
 RoHS compliant  
 WEEE compliant  
 See product manual for additional details

**Optional Accessories**

Converge Pro 880  
 Converge Pro 8i  
 Converge Pro TH20  
 Tabletop Controller  
 Button Microphone – Omni-Directional  
 Button Microphone – Uni-Directional  
 Delta Microphone  
 Tabletop Microphone – Uni-Directional  
 JBL Wall-Mount Speakers

**Part Number**

910-151-840 Converge Pro 840T – 4-channel AEC Microphone Mixer with built-in telephone hybrid amplifier

> CLEARONE LOCATIONS

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